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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/780,882	02/19/2004	Karl Schreiber	2560-0421	9055
7590 02/27/2006				
Timothy J. Klima, Esq. Harbin King & Klima 500 Ninth Street SE Washington, DC 20003		EXAMINER HANAN, DEVIN J		
		ART UNIT 3745 PAPER NUMBER		
DATE MAILED: 02/27/2006				

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/780,882

Applicant(s)

SCHREIBER, KARL

Examiner

Devin Hanan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 January 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 9 and 12-13 is/are rejected.
- 7) ☒ Claim(s) 6-8, 10, 11 and 14-16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 2/19/2004 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)     | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date. _____  | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Response to Arguments***

Applicant's arguments filed 1/17/2006 have been fully considered but they are not persuasive. The applicant argues that both the Hertel et al. reference and the Wright et al. reference are not suitable from an anticipatory viewpoint, and the examiner agrees. The 103 rejection as found in the 7/14/2005 non-final office action gives motivation to add features of one airfoil to the other. The two airfoils are from the same field of endeavor because they both have lower density cores and higher density exteriors. Regarding the remarks (remarks page 5 lines 15-18) that Wright et al. does not teach of a fiber core, Hertel et al. has a fiber core. Regarding the remarks (remarks page 5-6 lines 19-8 and page 7 paragraph 3) that Hertel et al. does not have a solid metal former which is welded, Wright et al. teaches of a solid metal former welded to the airfoil (the welding of former 46 is discussed in col. 2 line 29-30).

Applicant's arguments, see remarks page 7 paragraph 4, filed 1/17/2006, with respect to leading edge former protruding into the fiber compound material have been fully considered and are persuasive. The rejection of claim 7 has been withdrawn.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5, 9, 12, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hertel et al. (U.S. Patent 5,486,096) in view of Wright et al. (U.S. Patent 2,734,586).

Hertel et al. discloses an airfoil having a blade core of a fiber compound material (12) and a metallic enclosing structure (22)

wherein the enclosing structure (in this invention the enclosing structure is a toughened epoxy film; col. 4, lines 6-9) includes a blank on a suction side of the airfoil and a blank on a pressure side (20) of the airfoil which are connected in an area of a leading edge of the airfoil to a leading-edge former constructed of a solid metal (22, col. 1 lines 46-50).

Hertel does not disclose the metallic enclosing structure is of a multi-part design.

However, Wright teaches of a metallic enclosing structure of a multipart design in order to make the exterior of the blade to be impervious (col. 1 lines 60-61) and allow for a rigid welding of the blanks to the leading edge former (col. 2 line 24-32).

Regarding claim 2, Hertel et al. discloses a leading-edge former has an asymmetrical cross-section (22) to attach end faces of the blanks to the former where the former and the blanks are offset relative to each other, with a pressure-side attachment being positioned farther away from the leading edge than a suction-side attachment.

Hertel et al. does not disclose that those attachments are welds.

However, Wright et al. teaches of using welds for the purpose of rigidly attaching the blanks to the former (col. 2 lines 24-32).

Regarding claim 3, Hertel et al. discloses outer surfaces of the blanks and of the leading-edge former are flush with each other (figure 2, molding process left a flush exterior, but irregular thicknesses where the blanks meet the former, col. 4 lines 14-21).

Regarding claim 4, Hertel et al. does not disclose the leading-edge former includes recesses for locating ends of the blanks.

However, Wright et al. teaches of modifying the former to include recesses to help the blanks attach flush with the former (figure 4).

Regarding claim 5, Hertel et al. discloses a asymmetrical leading edge-former is longer on the pressure side than on the suction side and includes a fillet facing towards the blade core into which the fiber compound material protrudes (figure 2, material 12 is encased).

Regarding claim 9, Hertel et al. discloses a the thicknesses of at least one of the blanks varies over the width of the blank from the leading edge to a trailing edge, in dependence of the load applied to the blank

Regarding claim 12, Hertel et al. discloses the leading edge former includes an aerodynamically favorable shape with a tip radius (fig 2).

Regarding claim 13, Hertel et al. discloses the leading edge former are constructed from austenitic steels, but does not disclose the blanks are made of austenitic steels.

However, Wright et al. disclose the blanks are made of steel to make them impervious (col. 1 lines 59-67).

Since Hertel et al. and Wright et al. are from the same field of endeavor, airfoil blades with low-density cores and higher density exteriors with solid leading edges, Wright et al. would have been recognized in the pertinent prior art of Hertel et al. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have a multi part metallic structure including metal blanks welded to solid metal leading edges, which also have recessed grooves for accepting the metal blanks, as taught by Wright et al. in the airfoil blade of Hertel et al. for the purpose of making an impervious exterior structure with the leading edge bonded with the steel blanks by flush rigid welds (multi part design col. 1 lines 60-61, welds col. 2 lines 24-32, steel blanks col. 1 lines 59-67).

#### ***Allowable Subject Matter***

Claims 6-8, 10-11 and 14-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Prior Art***

The patents to Beyer (U.S. Patent 6,454,533) and Kock (3,466,725) were cited for their teachings of multi-piece metal blades including formers and blanks that are welded together.

***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

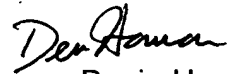
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Devin Hanan whose telephone number is 571-272-6089. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward Look can be reached on 571-272-4820. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



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Art Unit 3745



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2/21/06